## Part 1:

| (All time in ms)     |          |          |          |
|----------------------|----------|----------|----------|
|                      | w = 1024 | w = 2048 | w = 4096 |
| GPU                  |          |          |          |
| 8 threads/block      | 0.208992 | 0.629045 | 1.6712   |
|                      |          |          |          |
| 16 threads/block     | 0.227392 | 0.374304 | 1.144619 |
|                      |          |          |          |
| 32 threads/block     | 0.217024 | 0.3728   | 0.6392   |
|                      |          |          |          |
| 64 threads/block     | 0.223989 | 0.362944 | 0.652608 |
|                      |          |          |          |
| 128<br>threads/block | 0.216299 | 0.366272 | 0.66     |

## Part 2:

| (All time in ms) |                     |                     |                      |
|------------------|---------------------|---------------------|----------------------|
|                  | NUMPARTICLES = 1024 | NUMPARTICLES = 8192 | NUMPARTICLES = 32768 |
|                  |                     |                     |                      |
| CPU:             | 12.013              | 611.084             | 9725.951             |
|                  |                     |                     |                      |
| GPU:             |                     |                     |                      |
| 4 threads/block  | 1.551072            | 54.23172            | 717.128059           |
|                  |                     |                     |                      |
| 16 threads/block | 0.876619            | 19.837259           | 205.119715           |
|                  |                     |                     |                      |
| 64 threads/block | 0.890624            | 8.972736            | 130.477463           |